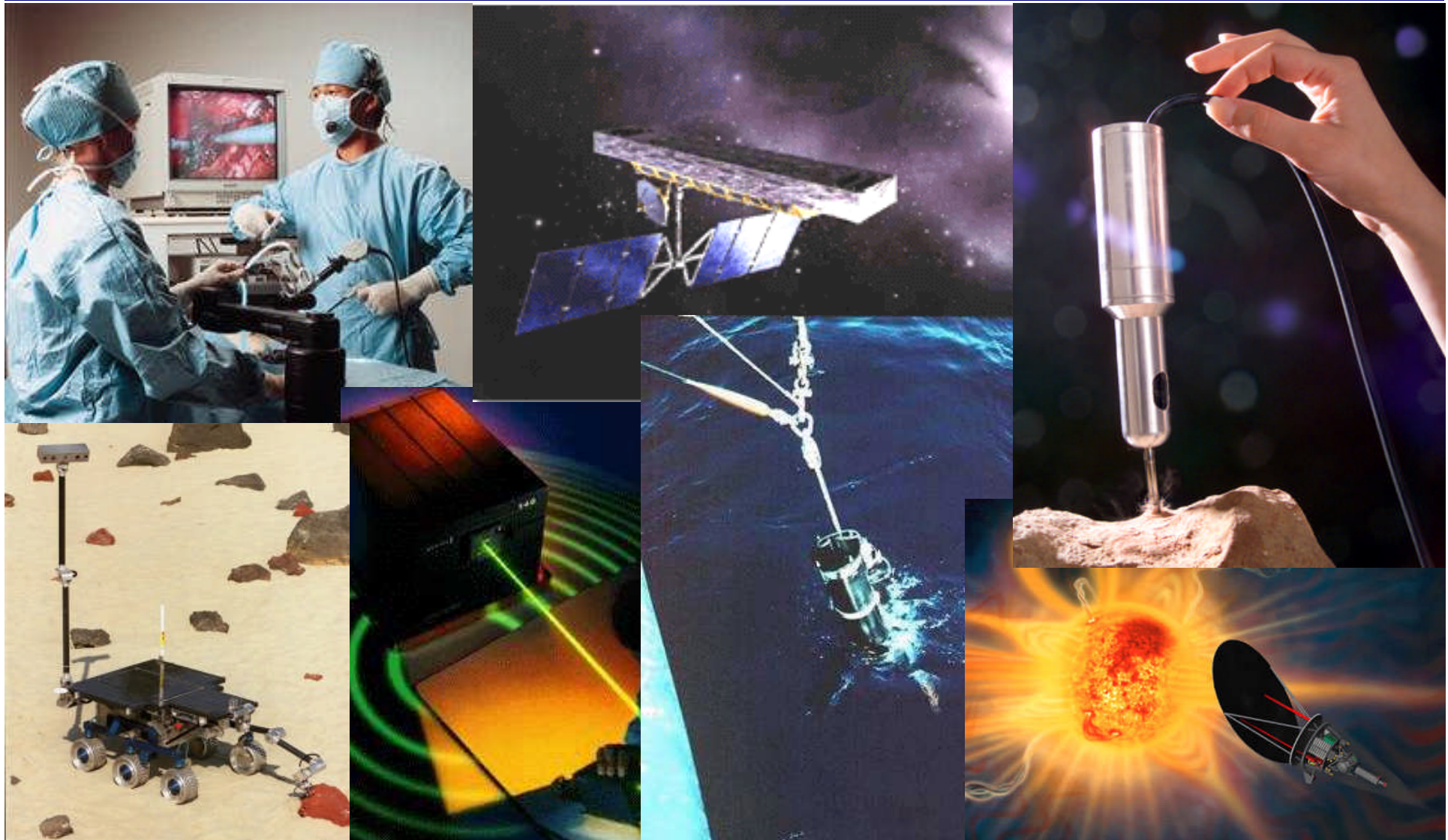


# Federal SBIR/STTR Programs





# **SBIR/STTR Programs**

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**Small Business Innovation Research  
Small Business Technology Transfer**

**Wayne Schober**

**SBIR Program Manager  
NASA Jet Propulsion Laboratory**

**March 8, 2006**



# Agenda

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- **Federal SBIR/STTR Program - What is it**
- **Information on 11 agency programs and contacts**
- **NASA SBIR Program Specifics**
- **How to Win**
- **Why Participate in SBIR**
- **Questions**
- **Discussions with Individual Companies**



# Federal SBIR Program

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- 11 Federal Agencies
- \$2.25 Billion Program in FY05
- Multiple Solicitation Dates



# SBIR Program Funding

PL 106-554

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- All Federal Agencies with an Extramural R&D Budget of over **\$100M (SBIR) or \$1B (STTR)** must participate in the SBIR and STTR Programs
- Participating SBIR Agencies must reserve **2.5%** of their extramural budget for SBIR and **0.3%** for STTR. Only 5 agencies, DoD, NIH, NASA, DoE, and NSF, participate in the STTR program
- **Extramural budget** is agency R&D (including FFRDCs and contractor operated facilities) less funds for government owned and operated facilities.



# What is SBIR?

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SBIR is a Congressionally Mandated Program for small businesses to:

- Stimulate technological innovation
- Increase private sector commercialization of federal R&D
- Increase small business participation in federally funded R&D
- SBIR is the largest source of early-stage technology financing in the U.S.



# How do you Qualify for SBIR?

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- Small Business of 500 or fewer employees
- Principal Investigator must spend more than 1/2 of time employed by the proposing firm
- During Phase I, a minimum of 2/3 effort must be performed by the proposing firm
- During Phase II, a minimum of 1/2 of the effort must be performed by the proposing firm
- Work must be performed in the United States



# Three Phase Programs

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	<u>SBIR</u>	<u>STTR</u>
<b>Phase I</b> Project Feasibility	6 months up to \$100K	6-12 months up to \$100K
<b>Phase II</b> Project Development To Prototype	2 yrs up to \$750K	2 years up to \$750K
<b>Phase III</b> Commercialization	non-SBIR/non-STTR funds	

\* Duration and funding limits are variable by agency





# What is STTR

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The Small Business Technology Transfer Program is a Congressionally Mandated Program for small businesses to:

- Move ideas from research institutions to market
- Enable researchers to pursue commercial application of technologies
- Bridge the funding gap between basic research and commercial products



# How do you Qualify for STTR?

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- Small business must perform a minimum of 40% of the work; research institution a minimum of 30%
- Research institution is a FFRDC, college or university, or non-profit research institution; no size limit on research institution;
- Small business must manage and control the STTR funding agreement
- Principal Investigator may be at the small business or research institution
- Small Business of 500 or fewer employees

QuickTime™ and a  
TIFF (LZW) decompressor  
are needed to see this picture.

# SBIR/STTR Patent Rights

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- Small businesses retain intellectual property rights
- Government receives royalty-free license for use of world wide patent rights to any invention development
- STTR must have written agreement allocating intellectual property rights among participants
- After the four year period the Government has unlimited rights in the SBIR data



# SBIR Phase I Statistics

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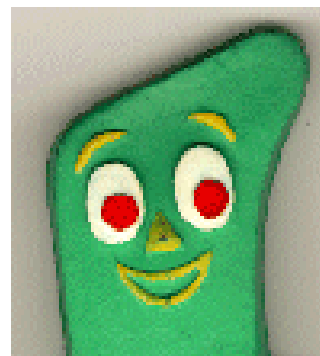
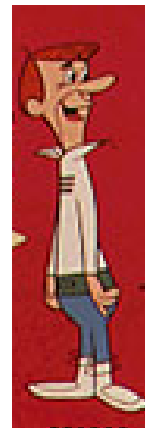
## **Winners are “small” businesses**

- 69% of Phase I winners are companies with 20 people or less
- 41% of Phase I winners are companies with 10 people or less

## **Winners are relatively new to the program**

- 39% of Phase I winners are first-time DoD winners
- 79% of Phase I DoD winners have 1 to 5 previous awards

# Agency Programs are all ... different





# SBIR/STTR Solicitation Dates

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Solicitation Dates May Change! - check the Agency specific website

2006 Solicitation	Open	Close
Homeland Security	Feb 10	Mar 10
National Science Foundation	Mar 13	Jun 13
DoD STTR	Mar 14	Apr 14
EPA	Mar 23	May 24
DoD 2006.2	Jun 14	Jul 14
NASA	Jul 7	Sep 7
DoD 2006.3	Sep 13	Oct 13
DOE	Sep	Dec
DoD	Nov	Dec
NIH	Jan 16	Dec 2

Others - Solicitations dates are listed on <http://www.sba.gov/>  
and <http://www.dodsbir.net/solicitation/>



# Contracts or Grants

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## Contracting Agencies

DOD	\$1,081M
NASA	\$ 105M
EPA	
DOT	
ED	
DOC	
DHS	

Internal Proposal Reviews

## Granting Agencies

HHS/NIH
ED
NSF
USDA
DOE

External Reviews



	DOD	NASA	DOT	EPA	DOE	DHS	DOC	NSF	USDA	DoED	NIH
Award Type <i>Contract Grant</i>	C	C	C	C	G	C	C	G	G	G/C	G/C
Award Amount <i>Phase I</i>	70K-100K <sup>a</sup> <u>Options<sup>c</sup></u>	70K SBIR 100K STTR	100K	70K	100K <u>9 mos</u>	100K	75k	100K	80K	100K	100k <sup>b</sup>
Award Amount <i>Phase II</i>	750K	600K	720K	225K <sup>c</sup>	750K	TBD	300k	500K <sup>c</sup>	325K	750K	750K <sup>b</sup>
Review Process	I	I	I	I	E	I	I	E	E	I	E
Research Topics	S	S	S	S	S	S	S	B	B	S	B
Gap Funding	Y	N	N	N	Y	N	N	Y	Y	N	Y
Communication	R	R	R	R	R	R	R	O	O	O	O

**C - Contract**

**I - Internal Review**

**S - Specific**

**R - Restricted**

**G - Grant**

**E - External Review**

**B - Broad**

**O - Open**

<sup>a</sup>Varies among DOD subcomponents.

<sup>b</sup>Deviations permitted with justification

<sup>c</sup>Some agencies offer Ph II options

***Agency Differences  
ALWAYS CHECK  
WITH AGENCIES***



# Ten Organizations in DoD SBIR 1,081M Budget

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AIR FORCE	29.2%
ARMY	21.6%
NAVY	23.4%
Missile Defense Agency (MDA)	11.7%
DARPA	6.3%
Office of the Secretary of Defence (OSD/DDR&E)	5.6%
- - -	
Special Operations Command (SOCOM)	1.2%
Joint Service – Chemical Biological Defense	0.5%
DTRA	0.4%
NGA (was NIMA)	0.1%

# DoD SBIR Points of Contact

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DoD Program Manager –

Mr. Michael Caccuitto (703) 588-8610

Air Force - Mr. Steve Guilfoos (937) 656-9062

Navy - Mr. John Williams (703) 696-0342

Army - Ms. Susan Nichols (703) 806-0859

DARPA - Ms. Connie Jacobs (703) 526-4162

Missile Defense Agency - Mike Zammit (703) 553-3408

# DoD SBIR Points of Contact

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OSD DDR&EM

Teresa Puretz (703) 693-0458

Defense Threat Reduction Agency

Lt. Col Kelley (703) 767-2356

Special Ops

Ms. Karen Pera (813) 828-7549

Nat Geospatial Agency

Ms. Nancy Groves [nancy.c.groves@nga.mil](mailto:nancy.c.groves@nga.mil)

# NASA SBIR/STTR 2006 Budget



**SBIR \$105M**  
**STTR \$13M**



SBIR - Phase I Contracts: \$70K (6 months)  
STTR - Phase I Contracts: \$100K (12 months)  
SBIR/STTR - Phase II Contracts: \$600K (2 years)



# NASA Organization

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## Four Mission Directorates:

1. **Aeronautics Research** ([www.aerospace.nasa.gov](http://www.aerospace.nasa.gov))
2. **Exploration Systems** ([www.exploration.nasa.gov](http://www.exploration.nasa.gov))
3. **Science** ([www.science.hq.nasa.gov](http://www.science.hq.nasa.gov))
4. **Space Operations** ([www.hq.nasa.gov/osf](http://www.hq.nasa.gov/osf))

# NASA Directorate Interests

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- **Aeronautics Research** ([www.aerospace.nasa.gov](http://www.aerospace.nasa.gov))
  - Aviation Safety and Security
  - Vehicle Systems
  - Airspace Systems
  - Aeronautics Test Technology
- **Exploration Systems** ([www.exploration.nasa.gov](http://www.exploration.nasa.gov))
  - Moon Initiative Technology Support
  - Power
  - Propulsion
  - Biological Sciences



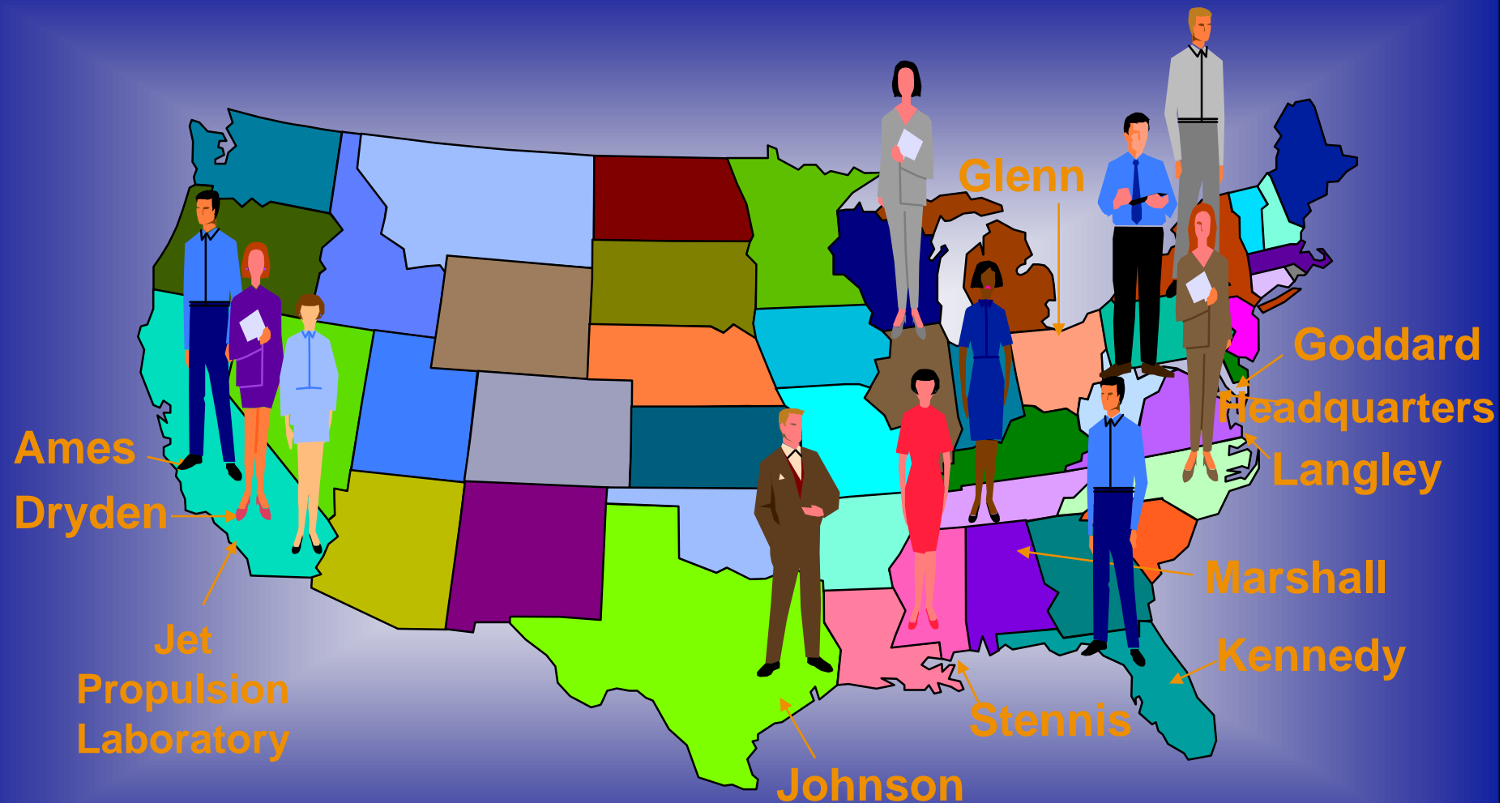
# NASA Directorate Interests

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- **Science** ([www.science.hq.nasa.gov](http://www.science.hq.nasa.gov))
  - Earth Science
  - Solar System Exploration
  - Telescopes
  - Sensors and Detectors
  - Helioscience
  - Spacecraft Technologies
- **Space Operations** ([www.hq.nasa.gov/osf](http://www.hq.nasa.gov/osf))
  - Communications
  - Operations



# All Ten NASA Centers Participate In the SBIR Program





# NASA Center Contacts

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**Ames Research Center - Geoff Lee, 650-604-6406**  
**Information Technology (automation, planning, simulation)**  
**Air Traffic Management Systems**

**Dryden Flight Research Center - Greg Poteat, 661-276-3872**  
**Atmospheric Flight Concepts, Flight Dynamic Systems Characterization,**  
**Flight Sensors and Airborne Instruments for Flight Research**

**Kennedy Space Flight Center - Chuck Griffin, 321-867-6225**  
**Space Transportation, Space Operations, Launch Site Technologies**

**Langley Research Center - Bob Yang, 757-864-8020**  
**Materials, Structures, Systems Analysis**  
**Lidar Remote Sensing**

**Glenn Research Center - Gynelle Steele, 216-433-8258**  
**Power, Propulsion, Communications**



# NASA Center Contacts

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**Goddard Space Flight Center - Jim Chern, 301-286-5836**  
**Optics, GN&C, Sensors & Detectors, Thermal Control**  
**Data Management and Visualization**

**Jet Propulsion Laboratory - Wayne Schober, 818-354-8581**  
**In-situ sensors and robotics, Active Microwave, Sensors &**  
**Detectors, Communications, Astronomical Observatories Technology**

**Johnson Space Flight Center - Kumar Krishen, 281-483-1348**  
**Human Systems Research, Life Support and Habitation, Human Systems**  
**Integration, In-situ Resource Utilization,**

**Marshall Space Flight Center - Lynn Garrison, 256-544-6719**  
**Chemical Propulsion, Cryogenic Telescope Components, Low Thrust and**  
**Propellantless Technologies, Particles and Fields**

**Stennis Space Flight Center - Ray Bryant, 228-688-3964**  
**Geospacial Data Analysis Processing and Visualization Technologies**  
**Rocket Propulsion Testing Systems**

# **SBIR is a Three Phase Program**

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**Phase I is a 6 month, \$70K effort to determine the feasibility of the proposed innovation**

- Phase I contracts are based on proposals received in response to the program's annual solicitation**

**Phase II is a 2 year, \$600K research, development, and demonstration effort**

- Phase II contracts are awarded to successful Phase I contractors**

**Phase III is the non-SBIR funded commercialization activity based on the Phase II result**

# Nature of NASA SBIR Contracts



- 
- **SBIR contracts are fixed price contracts to be completed on a best effort basis**
  - **Contractors own resulting intellectual property (data, copyrights, patents, etc.)**
  - **Government has royalty-free rights for government use of intellectual property**
  - **Government protects data from public dissemination for four years after contract ends**

# **SBIR Program Eligibility Checkpoints**

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- **Organized for-profit U.S. small business**
- **At least 51% U.S. owned and independently operated**
- **Small business located in the U.S.**
- **P.I.'s primary employment with small business during the project**



# Submission Process

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- All proposals are submitted electronically via the internet
- Make sure your proposal is received on time - late proposals are rejected
- Proposals are screened for administrative completeness and turned over to the managing NASA Center for technical review





# **Selection Process**

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## **NASA Phase I Evaluation Criteria:**

- 1. Scientific/Technical Merit and Feasibility (50%)**
- 2. Experience, Qualifications and Facilities (25%)**
- 3. Effectiveness of the Proposed Work Plan (25%)**
- 4. Commercial Potential and Feasibility (adjectival)**





# **Selection Process**

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## **NASA Phase II Evaluation Criteria:**

- 1. Scientific/Technical Merit and Feasibility (50%)**
- 2. Experience, Qualifications and Facilities (25%)**
- 3. Effectiveness of the Proposed Work Plan (25%)**
- 4. Commercial Potential and Feasibility (critical)**
  - Commercial Potential of the Technology**
  - Commercial Intent of the Offeror**
  - Capability of the Offeror to Realize Commercialization**



# Selection Process

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## **NASA Ranking Criteria:**

- 1. Value to NASA**
- 2. Reasonable Chance of Success**
- 3. Probability that Company Can Successfully Commercialize Technology (Phase III)**



# How to Win - Suggest a Topic

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- SBIR/STTR Subtopics are written for small business by researchers and managers
- Topics solicit innovative ideas to solve technical challenges
- Each topic is carefully reviewed each year
- SBIR/STTR Programs seek private sector input in selecting and refining potential topic areas for future SBIR and STTR solicitations



# How to Win - Read the Solicitation

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- NASA Phase I Proposals are \$70K for 6 months
- Air Force Phase I proposals \$100K for 9 months
- MDA, Army and OSD Phase I proposals NTE \$100K for 6 months
- DARPA Phase I proposals NTE \$99K for 8-12 months
- Navy Phase I proposals \$70K for 7 months plus a \$30K Option for 3 months



# How to Win - Know Your Customer

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- Review last year's solicitation and review the titles and some abstracts of the winning proposals in your area of interest
- If there is a pre-solicitation on the Web read and comment on the text (DoD release on the Web is May 1, 2006)
- Suggest topics areas and text, if appropriate
- Talk to the people in your technical area who write subtopics and review proposals at the agency where you intend to submit your proposal
  - Find their technical emphasis, needs, and interest
  - Solve a sponsors problem
  - Align your technology/proposal to the sponsor's final needs



# How to Win - Follow the Directions

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- Read the directions from the sponsoring agency
- Address all areas that will be scored in the evaluation by that agency
- Don't underestimate the importance of commercialization
- Suggest topics areas and text, if appropriate to the sponsor
- Mark appropriate proposals as "Proprietary" never "confidential". Mark only those pages that must be protected.
- Submit your proposal electronically prior to the last 24 hours



# How to Win - Proposal Tips

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- Start early and do your homework
- Lay out the evaluation criteria and write to satisfy them
- Don't pad the proposal to get to the 25 page limit
- Don't subcontract Government facilities or equipment with SBIR funds
- Comply with Conflict of Interest rules
- Prepare your proposal in accordance with the solicitation instructions or your proposal may be rejected administratively
- Submit your proposal electronically prior to the last 24 hours



# How to Win - Form a Team

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- If appropriate, form a team with universities or other companies
- Get advice from your local small business advisory resources
- Get an independent review of your proposal prior to submission





# Some Important Facts to Remember

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- Eligibility is determined at time of award
- No appendices allowed in Phase I
- The PI is not required to have a Ph.D.
- The PI is required to have expertise to oversee project scientifically and technically
- Applications may be submitted to different agencies for similar work
- Awards may not be accepted from different agencies for duplicative projects



# Questions

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**Is NASA interested in my technology ?**

Review last year's solicitation for potential areas of interest  
([sbir.nasa.gov](http://sbir.nasa.gov))

**What is NASA doing in this area of technology ?**

Call SBIR Program Office at NASA center(s) that lead the subtopic that is closest to your interests and have them put you in touch with a technical person working in the subject area

Calls must be made before solicitation opens

**Does my proposal need to fit into a specific subtopic?**

Yes, proposals that are not responsive to the solicitation may be classified "nonresponsive" and rejected. However, the subtopics are usually broadly written.



# Questions

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**What should my proposal look like ?**

A sample proposal is available at [sbir.nasa.gov](http://sbir.nasa.gov) –  
Procurement info – Contract Admin & Closeout - NASA  
SBIR/STTR Firms Library

**Should I consider using consultants and subcontractors?**

Yes, but remember limitations (1/3 of research work for SBIR), and no NASA Personnel

**Can I submit the same proposal to different subtopics if it applies?**

No, you risk having all proposals disqualified

# SBIR/STTR Program Schedule

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## 2006 Program Solicitation

Opening Date: 07/07/2006

Closing Date: 09/07/2006

Selections: Nov. 2006

<http://sbir.nasa.gov>

QuickTime™ and a  
TIFF (Uncompressed) decompressor  
are needed to see this picture.





# Why Participate in SBIR/STTR?

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1. Over \$2.25 Billion available every year
2. Funds are NOT A LOAN - no repayment - up to \$850K capital
3. Small businesses retain intellectual property rights
4. Provides seed money to fund high risk projects
5. Develop working relationship & credibility with government R&D
6. Fosters partnerships with large corporations and academia
7. Provides recognition and visibility for your business
8. Participation attracts venture capital and other funding sources



# For Further Information

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- Read the web sites - they are good
- Search on sbir and an agency name e.g.  
sbir nasa,  
sbir air force,  
sbir sba
- Call one of the agency contact names; call me
- Use the keyword search to find related topics  
at: <http://www.dodsbir.net/topics/default.asp> for  
the DoD solicitation